ABSTRACT OF THE DISCLOSURES

Disclosed is a method of inhibiting neoplastic cellular proliferation and/or transformation of mammalian breast or ovarian cells, including cells of human origin, in vitro or in vivo. The inventive method involves the use of a pituitary tumor transforming gene (PTTG)2 peptide, which has the ability to regulate endogenous *PTTG1* expression and/or function in a dominant negative manner. In some embodiments, the invention is directed to gene-based treatments that deliver PTTG2-encoding polynucleotides to mammalian cells, whether in vitro or in vivo, to inhibit the endogenous expression of *PTTG1*. Other embodiments are directed to peptide-based treatments that deliver PTTG2 peptide molecules to the cells, which inhibit endogenous *PTTG1* expression and/or PTTG1 function. Kits useful in practicing the inventive method are also disclosed.